Remarks

Claims 24-38 and 40-46 were previously pending. Claims 24, 38, and 46 have been amended, support for which may be found at least in paragraphs [0007], [0011], and [0054] of the originally-filed Specification. Claim 25 has been cancelled and its features have been incorporated into Claim 24. No claims have been added. Thus, Claims 24, 26-38, and 40-46 are currently pending.

Claims 24-32 and 38–39 stand rejected under 35 USC §103 as being unpatentable over the combination of Ellis with Wolf; Claims 33-37, 40-44, and 46 over the combination of Ellis with Wolf and Mussino; and Claim 45 over the combination of Ellis with Wolf and Nishihara. The Applicants note with appreciation the Examiner's helpful comments concerning the hypothetical application of those publications against the claims. The Applicants respectfully submit that the combinations would result in a different methodology and a different apparatus from what the Applicants claim. Reasons are set forth below.

Ellis discloses an all-optical processing system that converts or interfaces optical signals from a wavelength division multiplexed (WDM) form to an optical time divisional multiplexed (OTDM) form. Signals from a plurality of monochrome transmitters, having a plurality of wavelengths, are multiplexed to form a signal with a unique wavelength (an OTDM signal).

The transmitters described by Ellis are not synchronized by a synchronization circuit, as recited in Claim 24. With reference to Figure 1 of Ellis, there is no need for synchronization as the same data modulates the four carriers. With reference to Figure 7 of Ellis, the system is only functional if all of the data signals are synchronized (i.e., constant and aligned phase and rhythm). In sharp contrast, the phase and rhythm of the signals in Claim 24 are aligned locally in the monochrome transmitters due to the synchronization circuit.

Moreover, as noted above, Ellis describes conversion of optical signals from a WDM form to an OTDM form. In sharp contrast, Claim 24 recites that the signals from the monochrome transmitters are multiplexed together but are not transformed into an OTDM signal having a unique wavelength. Instead, the output signal of Claim 24 comprises a plurality of wavelengths (WDM signals).

Yet another difference between Ellis and Claim 24 is that Ellis lacks the optical gate that is controlled by a master clock of a synchronization circuit. In Figure 1 of Ellis, the coupler 140, the TWSLA 145, the cyclic filter 150, and the amplifier 152 are not controlled by the clock signal coming from the laser diode 110 and the amplifier 120. In Figure 7 of Ellis, the coupler 740, the TWSLA 745, the cyclic filter 750, the dispersive element 760, and the amplifier 726 are also not controlled by the clock coming from the laser diode 710 and the amplifier 722.

Moreover, the reformatting step from NRZ to RZ in Ellis is not performed by an optical gate controlled by a master clock of a synchronization circuit. Instead, the conversion from NRZ to RZ in Ellis is performed by the TWSLA, the cyclic filter, and the amplifier, none of which are controlled by a dedicated clock. Additionally, the reformatting step from NRZ to CS-RZ is not performed by an optical gate, as recited in Claim 24. Moreover, the reformatting step described by Ellis is not common and simultaneous for all carriers in the multiplexed signal.

The Office Action states that "Ellis differs from the claimed invention in that Ellis does not specifically disclose that the local clocks are slave clock[s] being controlled by the master clock." (*See* Page 3 of the Office Action of July 13, 2010.) The rejection turns to Wolf for disclosing the utilization of master-slave techniques in optical communications. (*See* Page 3 of the Office Action of July 13, 2010.)

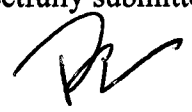
However, the Applicants respectfully submit that Wolf's disclosure is related to synchronizing a plurality of distant transmitters or network elements so that they transmit synchronized data signals on the network. This is in contrast to Claim 24 in which the transmitters are local. Moreover, and also unlike the features of Claim 24, Wolf discloses using at least one non-switched auxiliary channel having one dedicated wavelength reserved for synchronization. It does not disclose the multiplexing of signals coming from monochrome transmitters, the transmission of a multiplexed signal, the presence of an optical gate for reformatting a NRZ formatted, multiplexed signal to a RZ multiplexed signal or to a CS-RZ multiplexed signal, and the presence of a synchronization circuit for controlling the clock of the optical gate and the slave local clocks of local transmitters. The PLL mentioned by Wolf in paragraph [0022] is only used for electrical evaluation and not for synchronization. Moreover, in such a system as that described by Wolf, each network element would require a PLL since the network elements are distant from one another.

Finally, the Applicants respectfully submit that the combination of Ellis and Wolf would not be contemplated by one skilled in the art since Wolf relates to the synchronization of distant transmitters while Ellis's system elements are not elements of a network.

Accordingly, the Applicants respectfully request withdrawal of the 35 USC §103 rejection of independent Claim 24. Moreover, the Applicants respectfully submit that neither Mussino nor Nishihara remedy the deficiencies described above with respect to the combination of Ellis and Wolf. Thus, the 35 USC §103 rejection of Claims 26-38 and 40-46 is also requested.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



T. Daniel Christenbury
Reg. No. 31,750
Attorney for Applicants

TDC/vp
(215) 656-3381